PERMIT BOOK

STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 022006-015 Project Number: 2005-12-017
091-0062

Owner: Gabel Stone Company, Inc.

Owner's Address: 2092 County Road 5900, Willow Springs, MO 65793

Installation Name: Gabel Stone Company, Inc.

Installation Address: 2092 County Road 5900, Willow Springs, MO 65792

Location Information: Howell County, S23, T27N, R10W

Application for Authority to Construct was made for:

The creation of a new installation by combining equipment from a grandfathered rock-crushing plant and an existing cold-mix cutback asphalt plant. This permit also allows concurrent operation with other asphalt, concrete, or rock-crushing plant(s). The new rock-crushing/asphalt plant (091-0062) has a maximum hourly design rate (MHDR) of 300 tons per hour of aggregate (tph) and 125 tph of cutback asphalt. Best Management Practices will be used to control fugitive emissions from haul roads and storage piles. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

☐ Standard Conditions (on reverse) are applicable to this permit.

☑ Standard Conditions (on reverse) and Special Conditions (listed as attachments starting on page 2) are applicable to this permit.

FEB 20 2006

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional Office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed Special Conditions as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075); by the Missouri Rules listed in Title 10, Division 10 of the Codes of State Regulations (specifically 10 CSR 10-6.060); by 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority"; by 10 CSR 10-6.010 "Ambient Air Quality Standards" and 10 CSR 10-6.060 subsections (5)(D) and (6)(A); and by control measures requested by the applicant, in their permit application, to reduce the amount of air pollutants being emitted, in accordance with 10 CSR 10-6.060 paragraph (6)(E)3. Furthermore, one or more of the Subparts of 40 CFR Part 60, New Source Performance Standards (NSPS), applies to this installation.

1. Best Management Practices
   Gabel Stone Company, Inc. shall control fugitive emissions from all of the haul roads and stockpiles at this site by performing *Best Management Practices*, which include the usage of paving, chemical dust suppressants, or documented watering. These practices are defined in Attachment AA.

2. National Ambient Air Quality Standards (NAAQS) Limitation for Particulate Matter Less Than Ten Microns in Diameter (PM_{10})
   A. The operator(s) for Gabel Stone Company, Inc.'s rock-crushing/asphalt plant (091-0062) shall ensure, while operating at this site, that the ambient impact of PM_{10} at or beyond the nearest property boundary does not exceed 150 $\mu g/m^3$ in any 24-hour period, in accordance with the Federal NAAQS requirements (40 CFR 50.6).
   B. The total daily ambient impact of PM_{10} at this site shall include the combined impact of the rock-crushing/asphalt plant and any ambient background concentration from installations or equipment located on the same site as the rock-crushing/asphalt plant.
   C. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed. For concurrent operation when other plants are located at this site, use Attachment A, *Daily Ambient PM_{10} Impact Tracking Record (Concurrent Operation),* or other equivalent form(s).

3. Annual Emission Limit of Particulate Matter Less Than Ten Microns in Diameter (PM_{10})
   A. The operator(s) shall ensure that Gabel Stone Company, Inc.'s rock-crushing/asphalt plant (091-0062) emits less than 50 tons of PM_{10} into the atmosphere in any 12-month period.
   B. To demonstrate compliance, the operator(s) shall maintain a daily record of material processed and PM_{10}. Attachment B, *Monthly PM_{10} Emissions Tracking Record,* or other equivalent form(s), will be used for this purpose.

4. Annual Emission Limit of Volatile Organic Compounds (VOC)
   A. The operator(s) shall ensure that Gable Stone Company, Inc.'s rock-crushing/asphalt plant (091-0062) emits less than 40 tons of VOC into the atmosphere in any 12-month period.
   B. To demonstrate complicance, the operator(s) shall maintain a daily record of material processed and VOC. Attachment C, *Monthly VOC Emissions Tracking Record,* or other equivalent form(s), will be used for this purpose.

5. Moisture Content Testing Requirement for Inherent Moisture Content
   A. The inherent moisture content of the rock will reduce particulate emissions. Gabel Stone Company, Inc. claimed the inherent moisture content of the processed rock to be greater than or equal to 1.5 wt%, which shall be verified by testing.
   B. Testing shall be conducted according to approved methods, such as those prescribed by the *American Society for Testing Materials (ASTM D-2216 or C-566)*, EPA AP-42 Appendix C.2, or other method(s) approved by the Director. The first test shall be no later than 45 days after startup. For three consecutive years, one test shall be conducted between the months of June and September, while the rock-crushing/asphalt plant is active at this site. If the test results have been consistently greater than 1.5 wt% and there is no reported emission exceedances from the plant, then no further testing is required and this site shall be deemed to have met this condition on all subsequent permits. Verification of the results will be performed during a routine inspection. If the test results have been less than 1.5 wt% and/or there is substantial change in the emissions from the plant, then Gabel Stone Company, Inc. shall apply for a new construction permit to account for the revised information or operate a wet suppression system capable of maintaining visible emissions standards for each unit

SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

within 30 days.

C. The operator shall obtain test samples before processing (before entering the Primary Crusher, EP-04) and after processing (prior to load-in to bins and/or storage piles) for the rock-crushing operation. During the sample processing run only, any spray devices shall be turned off during the processing from which test samples are obtained. The written analytical report shall include the raw data and moisture content (wt.%) of each sample, the test date, and the original signature of the individual performing the test. Within 30 days of completion of the required tests, the report shall be submitted to the Enforcement section of the Air Pollution Control Program, and a copy shall be sent to the Regional Office.

6. Performance Testing for New Source Performance Standards (NSPS)
   A. Gabel Stone Company, Inc. shall submit the enclosed testing plan to the Enforcement section of the Air Pollution Control Program for all equipment applicable to NSPS Subpart "OOO". Gabel Stone Company, Inc. shall contact the Enforcement section to obtain all requirements for testing, and the plan must be submitted to the Enforcement section at least 30 days prior to the proposed test date.
   B. Testing must be performed no later than 60 days after achieving the maximum production rate of the process, and in any case no later than 180 days after initial startup. The performance test results shall be submitted to the Enforcement section no later than 30 days after completion of any required testing.

7. Restriction on Process Configuration of Primary Emission Point(s)
   The maximum hourly design rate of the plant is equal to the sum of the design rate(s) of the primary emission point(s). Gabel Stone Company, Inc.'s rock-crushing/asphalt plant (091-0062) has designated the following unit(s) as the primary emission point(s) of the rock-crushing/asphalt plant: primary crusher (EP-04). Bypassing the primary emission point(s) for processing is prohibited.

8. Restriction on Minimum Distance to Nearest Property Boundary
   The primary emission point of the rock-crushing/asphalt plant, which is the primary crusher (EP-04), shall be located at least 620 feet from the nearest property boundary whenever it is operating at this site.

9. Record Keeping Requirement
   The operator(s) shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request.

10. Reporting Requirement
    The operator(s) shall report to the Air Pollution Control Program Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after any exceedances of the limitations imposed by this permit.

11. Superseding Condition
    The conditions of this permit supersede all special conditions found in the previously issued construction permit(s) (072000-016) from the Air Pollution Control Program.

TECHNICAL REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT

PROJECT DESCRIPTION

Originally, there are two separate plants at this site: a grandfathered rock-crushing plant and a cutback asphalt plant. The company requested that the two plants be combined and a permit given to the resulting installation.

Rocks are drilled/blasted, and loaded into haul trucks to be transported to the plant. The rocks are processed through feeder(s), conveyor(s), crusher(s), and bin(s) to produce a maximum of 300 tons per hour of rocks. Some of the rocks are sent to storage piles where they will eventually be hauled to customers. The remaining balance of rocks are transported through a hopper and a conveyor to a pugmill mixer, where they are sprayed with MC-800 oil mixture before falling into the mixer, to produce cutback asphalt. The MC-800 is composed of 23% diluent and 77% asphalt cement by weight. The cutback asphalt operation can produce up to 125 tons of asphalt per hour.

This permit allows Gabel Stone Company's rock-crushing/asphalt plant (091-0062) to operate concurrently in Howell County (S23, T27N, R10W) with other asphalt, concrete, or rock-crushing plant(s), but only if the plant(s) have been limited in their permit(s) to a combined ambient impact of 77.53 $\mu g/m^3$ of PM_{10} or less at or beyond the nearest property boundary in any single 24-hour period. For compliance tracking purposes, Gabel Stone Company's rock-crushing/asphalt plant (091-0062) shall record the identity of the concurrently operating plant(s). If any emissions-related violations occur on days that companies are operating concurrently, all companies will be held responsible. It is, therefore, recommended that all companies communicate daily, and a daily communications log may be helpful in demonstrating compliance.

The emission points are listed in the attached spreadsheet summary. This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2]. The installation is located in Howell County, an attainment area for all criteria air pollutants.

Table 1. Other Permits Issued for Site 091-0062

Permit Number	Completed	Description
072000-016	7/14/2000	Section 5 permit issued for the cutback asphalt plant.

EMISSIONS EVALUATION

Criteria air pollutants will be emitted from this operation. The main air pollutants of concern are PM_{10} and Volatile Organic Compounds (VOCs). The potential emissions of PM_{10} are calculated from the maximum hourly design rate (MHDR) of the equipment, PM_{10} emission factors, control device efficiencies, and the limiting operating hours at MHDR. Most of the VOCs emitted are from the evaporation of the diluent in the MC-800 oil mixture used to produce cutback asphalt. A small amount is emitted by the diesel engines used to power the equipment. The potential emissions of VOCs from the cutback asphalt operation are calculated by determining, through mass balances, the weight of the diluent needed for the production of cutback asphalt and assuming a 10% evaporation rate of the diluent. The 10% evaporation rate was obtained from previous permits issued to the cutback asphalt operation (Permit #072000-016, Project #2000-05-135). The potential emissions of VOCs from the diesel engines are calculated from the MHDR of the diesel engines, VOC emission factors, control device efficiencies, and the limiting operating hours at MHDR. The overall potential VOC emission of the installation is obtained by summing the potential emissions of VOC from the cutback asphalt operation and the diesel engines.

Four (4) diesel engines are used to power equipment at this installation. Three of the diesel engines are used in aggregate production, and they have MHDRs of 4.0, 4.0, and 7.9 gallons of fuel per hour. The fourth diesel engine is used in cutback asphalt production, and it has an MHDR of 2.5 gallons of fuel per hour.

The plant has an annual emission limit of less than 50 tons of PM_{10} in any 12-month period. A composite PM_{10} emission factor was developed for the plant. The PM_{10} composite emission factor is incorporated into the monthly record keeping table, Attachment B. If the conditioned potential emissions of PM_{10} were 50 tons per year or greater then the owner would be required to submit dispersion modeling results.

The plant also has an annual emission limit of less than 40 tons of VOCs in any 12-month period. Since diesel engines are used for both aggregate production and cutback asphalt production, VOCs will be emitted by both. Therefore, two VOC emission factors were developed for the installation. One is for calculating emissions from

the rock-crushing operation and based on pounds of VOC emitted per ton of aggregates; The other is for calculating emissions from the cutback asphalt operation and based on pounds of VOC emitted per ton of cutback asphalt. The VOC emission factors are incorporated into the monthly record keeping table, Attachment C. VOC emissions are conditioned to less than *de minimis* levels because no models are currently available for prediction of impact from VOC emissions for a cold-mix cutback asphalt operation.

Table 2: Emissions Summary (tons per year)

Air Pollutant	Regulatory *De Minimis* Levels	Existing Potential Emissions	Existing Actual Emissions (2004 EIQ)	Potential Emissions of the Application	*New Installation Conditioned Potential	Emission Factor
PM_{10}	15.0	85.45	6.79	85.45	<50	0.0650**
SOx	40.0	3.20	0.25	3.20	1.87	N/A
NOx	40.0	48.69	3.74	48.69	28.49	N/A
VOC	40.0	27.05	0.31	1528.90	<40	0.0026/2.793***
CO	100.0	10.49	0.80	10.49	6.14	N/A
HAPs	10.0/25.0	0.04	0.26	0.04	0.03	N/A

Note: N/A = Not Applicable

* PM_{10} Conditioned potential based on limit in permit conditions. Other pollutants proportionally reduced.

** PM_{10} emission factor based on pounds of PM_{10} per ton of aggregate.

***Emission Factor of 0.0026 from aggregate production and based on pounds of VOC per ton of aggregate. Emission Factor of 2.793 from cutback asphalt production and based on pounds of VOC per ton of cutback asphalt.

AMBIENT AIR QUALITY IMPACT ANALYSIS

Screening tools were used to evaluate the ambient air impact of the hourly emissions from this operation. The ambient impact was evaluated at a distance of 620 feet to the nearest property boundary. The ambient impact at this site shall not exceed the National Ambient Air Quality Standard (NAAQS) of 150 $\mu g/m^3$ of PM_{10} at or beyond the nearest property boundary in any single 24-hour period.

This permit allows for two (2) operating scenarios: Scenario 1 for solitary operation and Scenario 2 for concurrent operation with other plants located at this site. During concurrent operations, Gabel Stone Company's rock-crushing/asphalt plant (091-0062) will decrease their daily production in order to allow other installations to operate at the site. The ambient impact for Gable Stone Company's rock-crushing/asphalt plant (091-0062) under concurrent operations shall be limited to less than 52.47 $\mu g/m^3$ of PM_{10} at or beyond the nearest property boundary in any single 24-hour period. Screening tools were used to develop an ambient impact factor for the rock-crushing/asphalt plant during concurrent operations. This ambient impact factor is incorporated into the daily record keeping table, Attachment A. No record keeping table is needed for solitary operation because the rock-crushing/asphalt plant will never exceed the NAAQS limit for PM_{10} even if operating at maximum capacity for 24 hours a day.

For sources agreeing to use Best Management Practices (BMPs), as defined in Attachment AA, haul roads and stockpiles are not modeled with screening tools. Instead, they are addressed as a background level of 20 $\mu g/m^3$ of PM_{10}. To ensure conformity with NAAQS, the remaining process emissions are limited to an impact of less than 130 $\mu g/m^3$ of PM_{10} at or beyond the nearest property boundary.

Table 3: Ambient Air Quality Impact Analysis of PM_{10}, 24-Hour Averaging Time

Operation	Ambient Impact Factor ($\mu g/m^3$ton)	Modeled Impact ($\mu g/m^3$)	*Background ($\mu g/m^3$)	NAAQS ($\mu g/m^3$)	Daily Production Limit (tons)
1. Solitary	0.0166	119.68	20.00	150.00	7200
2. Concurrent	0.0131	52.47	97.53	150.00	4000

* Background PM_{10} level of 20.00 $\mu g/m^3$ from haul roads and stockpiles and 77.53 $\mu g/m^3$ from the operation of other asphalt, concrete, or rock-crushing/asphalt plants.

APPLICABLE REQUIREMENTS

The owner is subject to compliance with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements.

- *Submission of Emission Data, Emission Fees and Process Information,* 10 CSR 10-6.110
- *Operating Permits*, 10 CSR 10-6.065
- An Operating Permit application is required for this installation within 30 days of equipment startup.
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090
- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Sulfur Compounds*, 10 CSR 10-6.260
- 40 CFR Part 60 Subpart "OOO", *Standards of Performance for Nonmetallic Mineral Processing Plants*, of the New Source Performance Standards (NSPS)
- The National Emission Standards for Hazardous Air Pollutants (NESHAPs) and the currently promulgated Maximum Achievable Control Technology (MACT) regulations do not apply to the proposed equipment.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Chia-Wei Young
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, designating Gabel Stone Company, Inc. as the owner and operator of the installation.
- Environmental Protection Agency (EPA) AP-42, *Compilation of Air Pollutant Emission Factors; Volume I, Stationary Point and Area Sources, Fifth Edition.*
- Noyes Data Corp. book, Orlemann, et al.1983, *Fugitive Dust Control*.
- EPA Factor Information Retrieval (FIRE) Version 6.21.
- Spreadsheet calculations of potential-to-emit and ambient impact.
- Southeast Regional Office Site Survey.
- Best Management Practices.

Attachment A: Daily Ambient PM_{10} Impact Tracking Record (Concurrent Operation)
Gabel Stone Company, Inc., 091-0062 – Rock-Crushing/Asphalt Plant

Project Number: 2005-12-017
County, CSTR: Howell County (S23, T27N, R10W)
Primary Unit Size: 300 tph
Distance to Nearest Property Boundary: 620 feet

This sheet covers the period from _____ to _____ (Month, Day, Year) *(Copy this sheet as needed.)*

Date	Gabel Stone Company, Inc. 091-0062 Project # 2005-12-017			[2]Back-ground PM_{10} Level ($\mu g/m^3$)	[3]TOTAL PM_{10} Level ($\mu g/m^3$)
	Daily Production (tons)	Ambient Impact Factor ($\mu g/m^3$ton)	[1]Daily PM_{10} Impact ($\mu g/m^3$)		
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
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		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	
		0.0131		97.53	

Note 1: The Daily PM_{10} Impact ($\mu g/m^3$) for each plant is calculated by multiplying the Daily Production (tons) by the matching Ambient Impact Factor.
Note 2: Background PM_{10} Level ($\mu g/m^3$) is from Haul Roads and Stockpiles **AND** from the operations of other asphalt, concrete, or rock-crushing plants.
Note 3: The TOTAL PM_{10} Level ($\mu g/m^3$) is calculated by summing the Daily PM_{10} Ambient Impact(s) and the Background PM10 Level. A TOTAL PM_{10} Level of less than 150 $\mu g/m^3$ in any 24-hour period indicates compliance.

Attachment B: Monthly PM_{10} Emissions Tracking Record
Gabel Stone Company, Inc., 091-0062 – Rock-Crushing/Asphalt Plant

Project Number: 2005-12-017
County, CSTR: Howell County (S23, T27N, R10W)
Primary Unit Size: 300 tph
Distance to Nearest Property Boundary: 620 feet

This sheet covers the period from _____ to _____ (Month, Day, Year)
(Copy this sheet as needed.)

Month	Monthly Production of Aggregate (tons)	Composite PM_{10} Emission Factor (lbs/ton)	[1]Monthly PM_{10} Emissions (lbs)	[2]Monthly PM_{10} Emissions (tons)	[3]12-Month PM_{10} Emissions (tons/year)
		0.0650			
		0.0650			
		0.0650			
		0.0650			
		0.0650			
		0.0650			
		0.0650			
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		0.0650			
		0.0650			
		0.0650			

Note 1: The Monthly Emissions (lbs) are calculated by multiplying the Monthly Production (tons) by the Composite Emission Factor (lbs/ton).
Note 2: The Monthly Emissions (tons) are calculated by dividing the Monthly Emissions (lbs) by 2,000.
Note 3: The 12-Month Emissions (tons/year) are a rolling total calculated by adding the Month's Emissions (tons) to the Monthly Emissions (tons) of the previous eleven (11) months. A total of less than **50** tons in any consecutive 12-month period indicates compliance.

Attachment C: Monthly VOC Emissions Tracking Record
Gabel Stone Company, Inc., 091-0062 – Rock-Crushing/Asphalt Plant

Project Number: 2005-12-017
County, CSTR: Howell County (S23, T27N, R10W)
Primary Unit Size: 125 tph
Distance to Nearest Property Boundary: 620 feet

This sheet covers the period from _____ to _____ (Month, Day, Year)
(Copy this sheet as needed.)

	Aggregate Production					Cutback Asphalt Production					Overall
Month	Monthly Production (tons)	Composite VOC Emission Factor (lbs/ton)	[1]Monthly VOC Emissions (lbs)	[2]Monthly VOC Emissions (tons)	[3]12-Month VOC Emissions (tons/year)	Monthly Production (tons)	Composite VOC Emission Factor (lbs/ton)	[1]Monthly VOC Emissions (lbs)	[2]Monthly VOC Emissions (tons)	[3]12-Month VOC Emissions (tons/year)	[4]12-Month VOC Emissions (Tons/year)
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				
		0.0026					2.793				

Note 1: The Monthly Emissions (lbs) for each operation are calculated by multiplying the Monthly Production (tons) by the Composite Emission Factor (lbs/ton).
Note 2: The Monthly Emissions (tons) for each operation are calculated by dividing the Monthly Emissions (lbs) by 2,000.
Note 3: The 12-Month Emissions (tons/year) for each operation are a rolling total calculated by adding the Month's Emissions (tons) to the Monthly Emissions (tons) of the previous eleven (11) months. A total of less than **40** tons in any consecutive 12-month period indicates compliance.
Note 4: The Overall Emissions of the Installation are calculated by adding the 12-Month Emissions from the aggregate and cutback asphalt productions.

Attachment AA: Best Management Practices (BMPs)- Construction Industry Fugitive Emissions

Construction Industry Sites covered by the Interim Relief Policy shall maintain Best Management Control Practices (BMPs) for fugitive emission areas at their installations when in operation. Options for BMPs are at least one of the following:

For Haul Roads:

1. Pavement of Road Surfaces –
   - A. The operator(s) may pave all or any portion of the haul roads with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve "Control of Fugitive Emissions[1]" while the plant is operating.
   - B. Maintenance and/or repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
   - C. The operator(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the haul road(s) as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Usage of Chemical Dust Suppressants –
   - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the unpaved portions of the haul roads. The suppressant will be applied in accordance with the manufacturer's suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
   - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
   - C. The operator(s) shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

3. Usage of Documented Watering –
   - A. The operator(s) shall control the fugitive emissions from all the unpaved portions of the haul roads at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of haul roads as necessary to achieve control of fugitive emissions from these areas while the plant is operating. For example, the operator(s) shall calculate the total square feet of unpaved vehicle activity area requiring control on any particular day, divide that product by 1,000, and multiply the quotient by 100 gallons for that day.
   - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operation (e.g., meteorological situations, precipitation events, freezing, etc.)
   - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
   - D. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads. The operator(s) shall record a brief description of such events in the same log as the documented watering.
   - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

[1] For purposes of this document, Control of Fugitive Emissions means to control particulate matter that is not collected by a capture system and visible emissions to the extent necessary to prevent violations of the air pollution law or regulation. (Note: control of visible emission is not the only factor to consider in protection of ambient air quality.)

For Vehicle Activity Areas around Open Storage Piles:

1. Pavement of Stockpile Vehicle Activity Surfaces –
   - A. The operator(s) may pave all or any portion of the vehicle activity areas around the storage piles with materials such as asphalt, concrete, and/or other material(s) after receiving approval from the program. The pavement will be applied in accordance with industry standards for such pavement so as to achieve control of fugitive emissions while the plant is operating.
   - B. Maintenance and/or repair of the road surface will be conducted as necessary to ensure that the physical integrity of the pavement is adequate to achieve control of fugitive emissions from these areas while the plant is operating.
   - C. The operator(s) shall periodically water, wash and/or otherwise clean all of the paved portions of the vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating.

2. Usage of Chemical Dust Suppressants –
   - A. The operator(s) shall apply a chemical dust suppressant (such as magnesium chloride, calcium chloride, lignosulfonates, etc.) to all the vehicle activity areas around the open storage piles. The suppressant will be applied in accordance with the manufacturer's suggested application rate (if available) and re-applied as necessary to achieve control of fugitive emissions from these areas while the plant is operating.
   - B. The quantities of the chemical dust suppressant shall be applied, re-applied and/or maintained sufficient to achieve control of fugitive emissions from these areas while the plant is operating.
   - C. The operator(s) shall record the time, date and the amount of material applied for each application of the chemical dust suppressant agent on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.

3. Usage of Documented Watering –
   - A. The operator(s) shall control the fugitive emissions from all the vehicle activity areas around the storage piles at the installation by consistently and correctly using the application of a water spray. Documented watering will be applied in accordance with a recommended application rate of 100 gallons per day per 1,000 square feet of unpaved/untreated surface area of vehicle activity areas around the storage piles as necessary to achieve control of fugitive emissions from these areas while the plant is operating. (Refer to example for documented watering of haul roads.)
   - B. The operator(s) shall maintain a log that documents daily water applications. This log shall include, but is not limited to, date and volumes (e.g., number of tanker applications and/or total gallons used) of water application. The log shall also record rationale for not applying water on day(s) the plant is in operations (e.g., meteorological situations, precipitation events, freezing, etc.)
   - C. Meteorological precipitation of any kind, (e.g. a quarter inch or more rainfall, sleet, snow, and/or freeze thaw conditions) which is sufficient in the amount or condition to achieve control of fugitive emissions from these areas while the plant is operating.
   - D. Watering may also be suspended when the ground is frozen, during periods of freezing conditions when watering would be inadvisable for traffic safety reasons, or when there will be no traffic on the roads. The operator(s) shall record a brief description of such events in the same log as the documented watering.
   - E. The operator(s) shall record the date and the amount of water applied for each application on the above areas. The operator(s) shall keep these records with the plant for not less than five (5) years, and the operator(s) shall make these records available to Department of Natural Resources personnel upon request.